What is Claimed is:

1. A channel quality assessment method for a communication system having a plurality of channels for receiving signal packet traffic utilizing a plurality of received signal, comprising the steps of:

(a.1) grouping said plurality of channels into a plurality of groups, each of said plurality of groups having at least one channel;. and

(a.2) determining a channel quality of each of said plurality of channels responsive to detection results of said received signals in each of said plurality of groups; comprising steps of:

(a.2.1) defining a quality assessing operator responsive to said plurality of receiving signals for determining qualities of said plurality of channels and said plurality of groups containing said plurality of channels;

(a.2.2) determining a quality assessing value of a first selective group from said quality assessing operator; wherein if a quality assessing value of said first selective group is not within a predetermined range, said first selective group is an unqualified group, if a second selective group is overlapped with said unqualified group, and a size of said unqualified group is smaller than that of said selective group, then overlapping channels between said unqualified group and said second selective group are disabled in said second selective group, the size of said second selective group being reduced by the number of said overlapping channels;

(a.2.3) determining a quality assessing value of a selective channel being said qualified assessing value of said first selective group that satisfies the follow conditions that

(a.2.3.1) said selective group containing said selective channel, and said selective channel being not disabled in said selective group; and

(a.2.3.2) said selective group has a largest number of non-disabled channels.

2. The method of claim 1, wherein after step (a.2.3.2), for an interfere source to the communication system, a quality assessing value of said selective channel is determined by the steps of:

(b.1) determining a second quality assessing value of said selective channel by the steps of:

(b.1.1) receiving information from the interference source;

(b.1.2) obtaining channels responsive to said information received in step (b.1.1), in said communication system overlapped with the interfering source, and obtaining a quality assessing value for said overlapped channels; and

(b.2) selecting for said overlapped channels, a larger one of said quality assessing value obtained from (a.2.3) and said second quality assessing value as said quality assessing value of said channel.

3. The method of claim 1, wherein said selective groups overlap.

4. The method of claim 1, wherein there is only one channel in a selective group.

5. The method of claim 1, wherein said plurality of channels are divided into groups having equal size of channels.

6. The method of claim 1, wherein groups are divided to match a frequency range of known interference.

7. The method of claim 1, said step (a.2.1) further comprising a step of defining said quality assessing operator to be an interference collision ratio being the number of the measured interference divided by the number of selected received signal packets subtracting the number of unknown events, wherein an unknown event has a received signal power less than said first predetermined threshold.

8. The method of claim 7, comprising a step of determining interference in a received signal packet by an error detection method.

9. The method of claim 8, wherein said step of determining interference in a received signal packet further comprises a step of determining whether the received signal packet power is larger than a first predetermined threshold, whereby the received signal packet is designated as an unknown event if a received signal power of the received signal packet is less than said first predetermined threshold, and the received signal packet is designated as an interference event if received packet signal power thereof is larger than said first predetermined threshold, and the received signal packet has an error being detected responsive to said error detecting method, whereby the received signal packet is designated as an interference-free event if the received packet signal power is larger than said first predetermined threshold and the received signal packet has no error being detected responsive to said error detecting method.

10. The method of claim 9, said step further comprising the steps of:

counting the number of interference events and the number of interference-free events for each of said plurality of groups; and

as the sum of said interference events and said interference –free event of a third selective group being equal to a predetermined number, calculating an interference collision ratio for said third selective group as a ratio of the number of interference events to the sum of the number of interference events and the number of interference-free events.

11. The method of claim 1, wherein as a counting number of said plurality of received signals in a fourth selective group is equal to a second predetermined number, then the counting number is reset, and said quality assessing value of said fourth selective group is updated.

12. The method of claim 11, wherein a plurality of storage elements are utilized to store latest updated results of each group.

13. The method of claim 8, wherein said error detection method utilizes HEC.

14. The method of claim 8, wherein said error detection method utilizes CRC.

15. The method of claim 8, wherein said error detection method utilizes FEC.

16. The method of claim 8, wherein said error detection method utilizes a combination of HEC, CRC, and FEC.

17. The method of claim 1, said step (a.2.1) further comprising a step of defining said quality assessing operator to be an interference collision ratio being the number of the measured interference divided by the number of selected received signal packets.

18. The method of claim 17, wherein the step of determining interference in a received packet further comprises the steps of:

(c. 1) measuring a signal strength in a channel silent time, said channel silent time being a predetermined interval having no transmission signals; and

(c. 2) designating a received signal packet as an interference event if the signal power of the received signal packet in said channel silent time is larger than a second predetermined threshold; and designating the received packet of signals as an interference-free event if the signal power of the received packet of signals in said channel silent time is less than said second predetermined threshold.

19. The method of claim 18, further comprising the steps after step (c.2) of:

counting the number of interference events and the number of interference-free events for each of said plurality of groups; and

as the sum of said interference events and said interference –free event being equal to a predetermined number, calculating an interference collision ratio for said third selective group as a ratio of the number of interference events to the sum of the number of interference events and the number of interference-free events.

20. The method of claim 2, wherein said information in step (b.1.1) includes one selected from a group containing frequency channels of the interfere source, traffic loads of the interfere source and received signal powers of the interfere source and a predetermined

combination thereof.

21. The method of claim 1, wherein said communication system is a frequency hopping spread spectrum system.

22. The method of claim 21, wherein said frequency-hopping spread spectrum communication system includes an adaptive frequency hopping system.

23. A channel quality assessing device utilizable in a communication system having a plurality of channels for receiving signal packet traffic utilizing a plurality of receiving signal, comprising:

channel grouping means for grouping said plurality of channels into a plurality of groups, each of said plurality of groups having a plurality of channels,. and .

channel quality determining means coupled to said channel grouping means for determining channel quality of each of said plurality of channels from detection results of each of said plurality of groups, further comprising;

a quality assessing calculator responsive to said plurality of receiving signals for determining qualities of said plurality of channels and said plurality of groups containing said plurality of channels; whereby said quality assessing calculator determining a quality accessing value of a first selective group and output said quality assessing value; and

first quality determining means for determining a quality assessing value of a selective channel being said qualified assessing value of said first selective group calculated from said quality assessing calculator .

24. The device of claim 23, further comprising

second quality determine means, for an interfere source to the communication system, said second quality determining means determining a quality assessing value of said selective channel by determining a second quality assessing value of said selective channel using information from the interfere source; and

a selector for said overlapped channels, selecting a larger one of said quality assessing value obtained from said first quality assessing means and said second quality assessing value from said second quality assessing means as said quality assessing value of said channel.

25. The device of claim 23, wherein said quality assessing value is an interference collision ratio being the number of channels having measured interference divided by the number of all received signal packets subtracting the number of unknown events, wherein an unknown event has a received signal power less than said first predetermined threshold.

26. The device of claim 23, wherein said quality assessing operator is an interference collision ratio being the number of the measured interference divided by the number of selected received signal packets.

27. The device of claim 23, wherein said communication system is a frequency hopping spread spectrum system.

28. The device of claim 27, wherein said frequency-hopping spread spectrum communication system includes an adaptive frequency hopping system.

29. A channel quality assessing system utilizable in a communication system having a plurality of channels for receiving signal packet traffic utilizing a plurality of receiving signal, said system comprising:

a channel number generator providing a channel number determining a frequency and then inputting a frequency signal;

a frequency synthesizer, coupled to said channel number generator for providing a continuous sinusoidal frequency signal;

a mixer having an input of an RF input signal and coupled to said frequency synthesizer, for mixing said RF input signal and said continuous sinusoidal frequency signal and thereafter outputting a signal packet;

a channel interference detector having an input from of said signal packet from said mixer for detecting interference in response to said received signal packet; and

a grouping/channel quality assessment unit, coupled to said channel interference detector, for grouping a predetermined number of channels from said plurality of channels and collecting said detecting interference for determining a channel quality.

30. The system of claim 29, wherein the grouping/channel quality assessment unit further comprises:

channel grouping means for grouping said plurality of channels into a plurality of groups, each of said plurality of groups having a plurality of channels, and .

quality assessing calculator coupled to said channel grouping means, for determining a quality assessing value and thus for determining the channel quality of each of said plurality of channels in response to a quality assessing value of each of said plurality of groups.

31. The system of claim 30, wherein said quality assessing value is an interference collision ratio being the number of channels having measured interference divided by the number of all received signal packets.

32. The system of claim 30, wherein said channel quality assessing system further comprises an integrated / co-located system for providing information of an interfere system.

33. The system of claim 30, further comprising

a channel partitioning block having an input from said grouping/ channel quality assessment unit for classifying channels having values of quality assessing value within a predetermined range into the same one of a plurality of partitions;

an adaptive frequency hopping sequence generator for adaptively generating a hopping sequence based on a result of channel partitioning from the channel partitioning block and

outputting said adaptive frequency hopping sequence to said channel number generator.